

EXHIBIT A

United States Patent [19]

Greenspan et al.

[11] Patent Number: **5,063,062**[45] Date of Patent: **Nov. 5, 1991**[54] **CLEANING COMPOSITIONS WITH
ORANGE OIL**[75] Inventors: **Douglas H. Greenspan**, Louisville;
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Colo.[73] Assignees: **D. Greenspan; W. Ingram**, both of
Louisville, Calif.[21] Appl. No.: **413,395**[22] Filed: **Sep. 27, 1989**[51] Int. Cl.⁵ **A61F 13/00**[52] U.S. Cl. **424/443**; 424/195.1;
424/401; 252/142; 514/783; 514/846

[58] Field of Search 424/443, 401; 514/783

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pp. 23-25.*Primary Examiner*—Thurman K. Page*Assistant Examiner*—James M. Spear*Attorney, Agent, or Firm*—Timothy J. Martin[57] **ABSTRACT**

A cleaning composition for cleaning the skin contains orange oil, a pharmaceutically acceptable moisturizer and an emulsifying agent. Preferably the orange oil accounts for between 5% and 60% by volume, and it further preferred that the composition contains 40% orange oil by volume. The moisturizer is either glycerin, aloe vera, jojoba oil, safflower oil or a combination thereof. The emulsifying agent preferably is oatmeal. The composition is constituted to have a pH of between 4.5 and 6.0, and the composition may be packaged as moistened towellets in hermetic packets.

12 Claims, No Drawings

CLEANING COMPOSITIONS WITH ORANGE OIL

FIELD OF THE INVENTION

The present invention generally relates to cleaning compositions suitable for external application to human skin tissue in order to remove unwanted substances such as tar, caulking compounds, sealants, adhesives and the like. More specifically, however, the present invention is directed to a natural cleaning composition that utilizes only plant based ingredients. As such, the present invention is particularly adapted for cleaning non-water soluble products from the human skin in a safe, effective manner.

BACKGROUND OF THE INVENTION

A wide variety of cleaning compositions are known for external application to skin tissue in order to remove dirt and unwanted materials. Among these cleaning compounds are the various hard and liquid soaps which may be used for cleaning human skin, especially the hands. However, numerous substances with which the hands may be soiled do not respond to ordinary soap compositions. Examples of substances that are difficult to remove include grease, tar, oils, ink, caulking materials, adhesives, sealants, gums, cosmetics and other non-water soluble products.

While some cleaning compositions have been developed for these materials, the typical cleaners are harsh and can damage the skin, especially after prolonged use. Examples of these compounds include turpentine, acetone, toluene and other petroleum based products as well as ammonia based products. These products, though, often damage the skin and otherwise exhibit a high level of toxicity. Further, if inhaled during use, these petroleum based products may cause respiratory damage. When absorbed through the skin, the petroleum based products can cause damage to the major organs of the body and can have a less serious side effect of drying and chaffing the skin where applied. Thus, it should be appreciated that, although petroleum is a naturally occurring product, it is not toxicologically healthy for the human body. Accordingly, there have been substantial efforts which have been made to find suitable alternative substances for skin cleaning. While some synthetically derived substances have been developed, many of these substances are medically suspect, and in some instances produce side effects making them unsuitable for use on a regular basis.

Orange oil, as a natural product derived from the rind of oranges, has been recognized in the past to have some cleaning capabilities. Prior to the present invention, however, it is not believed that the suitability of orange oil in cleaning human skin was realized. Orange oil by itself is a skin irritant that can cause inflammation of the tissues. When used by itself, fumes from orange oil may cause headaches, dizziness and other side effects. Accordingly, it has not been readily apparent that orange oil alone or in combination with other substances could prove effective in cleaning compounds otherwise difficult to remove from the tissues of the skin. Rather, efforts in the past have been directed to the combination of orange oil with other cleaning solvents to produce floor cleaners, glass cleaners and the like.

From the foregoing, it should be appreciated that the thrust of prior development of skin cleaners, other than soap, have been directed to petroleum based products and ammonia based products and the industry has ig-

nored the potential for orange oil as a constituent of skin cleaning compounds. Despite the long felt need for better cleaners, the suitability of orange oil has thus not been recognized, and the inventors of the subject invention have found success by examining this substance contrary to the direction of inquiry adopted by the industry at large.

SUMMARY OF THE INVENTION

10 It is an object of the present invention to provide a new and useful compound for cleaning the human skin. Another object of the present invention is to provide a skin cleaning compound suitable for cleaning non-water soluble products such as grease, caulking, adhesives, sealants, tar, oils, ink and the like.

15 Yet another object of the present invention is to provide a skin cleaning composition which is non-toxic.

20 It is a further object of the present invention is to provide a skin cleaning composition that is derived from natural vegetable and plant sources.

25 Still a further object of the present invention is to provide a skin cleaning composition that not only removes unwanted substances from the human skin but also acts to help clean and revitalize the human skin.

30 The present invention, then, provides a skin cleaning composition which is adapted for external use on human tissues. Broadly, this composition comprises a first ingredient being between five percent (5%) and sixty percent (60%) by volume of orange oil, a second ingredient being a pharmaceutically acceptable moisturizer for human skin and a third ingredient being an emulsifying agent. Preferably, the moisturizer is selected from a group consisting of: glycerin, aloe vera, jojoba oil, and safflower oil. Further, it is preferred that the emulsifying agent also function as an emollient. Preferably the emulsifying agent is a natural grain derivative, preferably either oat gum or oatmeal. Further, it is preferred that the first, second, and third ingredients are selected and mixed in a ratio such that the resulting skin cleaning composition has a pH range of between 4.5 and 6.0 inclusively. To this end, a fourth ingredient in the form of a buffering compound may be added to the composition.

35 In the more specific composition according to the preferred embodiment, the cleaning composition comprises forty-five percent (45%) or less by volume of orange oil, forty-five percent (45%) or less by volume of the emulsifying agent and the pharmaceutically acceptable moisturizer. The preferred emulsifying agent in this composition is oatmeal, and the preferred moisturizer is a mixture of jojoba oil, aloe vera and glycerin mixed by volume of approximately two parts jojoba oil, two parts aloe vera and one part glycerin. It is further desired to use a small portion of safflower oil both as a moisturizer and to help form a stable emulsion.

40 These and other objects of the present invention will become more readily appreciated and understood from a consideration of the following detailed description of the preferred embodiment:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

45 The present invention is directed to a cleaning composition utilized on skin tissues and having, as its cleaning ingredient, the commercially available substance known as orange oil derived from the rinds of oranges. In this broad form, the composition includes orange oil,

an emulsifying agent and a pharmaceutically acceptable moisturizer. In order to determine the preferred composition of the present invention, a series of samples having differing properties were evaluated to establish a desired range in pH and to establish the necessary proportion of orange oil to give suitable cleaning. These test samples are set forth below.

In their investigation of cleaning compositions according to the present invention, Applicants first investigated several compositions which were mixtures of orange oil, water, moisturizers and vitamin E. These samples were developed to test the cleaning properties of orange oil and to evaluate orange oil mixed with moisturizing agents. A test group of ten persons, male and female, were selected to subjectively evaluate the results of these samples. Initially, three such samples were prepared, and the compositions are set forth as Samples I-III, as follows:

SAMPLE I

Ingredient	Volume Percent (Approximate)
Orange Oil	39
Water	33
Glycerin*	12
Aloe Vera*	12
Jojoba Oil*	3
Vitamin E	1

*Total Moisturizers accounted for approximately 27% by volume.

SAMPLE II

Ingredient	Volume Percent (Approximate)
Orange Oil	34.5
Water	27.5
Glycerin*	17
Aloe Vera*	14
Jojoba Oil*	3.5
Vitamin E	3.5

*Total Moisturizers accounted for approximately 34.5% by volume.

SAMPLE III

Ingredient	Volume Percent (Approximate)
Orange Oil	37
Water	26
Glycerin*	14.75
Aloe Vera*	14.75
Jojoba Oil*	3.5
Vitamin E	4

*Total Moisturizers accounted for approximately 33% by volume.

Prior to presenting these samples to the test group, Applicants tested the relative acidity of the samples since it was believed desirable to avoid a composition that was either too acidic or too basic. The result of this acidity measurement, correlated to the Samples, is set forth in Table I below:

TABLE I

Sample	pH (Approximate)
I	4.5
II	5
III	4.7

In each of the cases of Samples I-III, the respective components were mixed and blended in an attempt to form an emulsion. An initial problem was noted with each of these Samples, however, in that the emulsion separated, that is, "broke" after approximately one to

two days. Since it was fairly simple to re-blend the Samples, Samples I-III were submitted to the test group for evaluation. Generally, the results of the composition was excellent with each of Samples I-III readily removing polyurethane and silicone base caulking compounds, tars, grease, oil and adhesives; each of these industrial type substances are regarded as difficult to remove, from the human hands. All ten members of the test group reported comparable cleaning properties and reported that their hands were left soft after a two week period of using the compounds. Indeed, after two weeks of use, certain male members of the test group who had dry hands resulting from the use of other solvents noted substantial improvement in the texture and softness of their hands. No allergic reactions were reported by any members of the test group.

After determining that test Samples I-III performed adequately in cleaning the hands and in moisturizing the hands, it became necessary to determine whether the oil orange and moisturizer emulsion could be stabilized so that it would not break over a period of time. In order to determine if a natural ingredient could act as an emulsifying agent, the Applicants selected a grain base derivative as an emulsifying agent. To this end, Applicants tested oatmeal gum and oatmeal to act as the primary emulsifier. Accordingly, two more test samples, Samples IV and V were prepared according to the compositions set forth below:

SAMPLE IV

Ingredient	Volume Percent (Approximate)
Orange Oil	42.75
Aloe Vera*	7
Jojoba Oil*	3.5
Safflower Oil*	4
Oatmeal Gum	42.75

*Total Moisturizers accounted for approximately 14.5% by volume.

SAMPLE V

Ingredient	Volume Percent (Approximate)
Orange Oil	36.5
Aloe Vera	14
Jojoba Oil*	14
Glycerin*	7
Safflower Oil*	0.5
Oatmeal	28

*Total Moisturizers accounted for approximately 35.5% by volume.

It may be noted that, in Samples IV and V, vitamin E and water were both omitted from the composition. However, it should be noted that both the oatmeal gum in Sample IV and the oatmeal in Sample V each contain a portion of water. In Sample IV, the oatmeal gum was prepared by boiling rolled oats in water and straining the resultant mass to remove the hulls. In Sample V, rolled oats were boiled in water and the resulting mass (containing approximately 50% water) was used to prepare the composition. Relatively equal parts of orange oil and oat derivatives were used and a small portion of safflower oil was included. Again, relative acidity was tested and it was found that Sample IV had a pH of approximately 5.0 while Sample V had a pH of 5.5.

Samples IV and V were submitted to the test group to evaluate cleaning effectiveness and moisturizing ability. Further, observation of the two compositions were

made to determine whether or not the emulsions broke. The results of this study determined that the emulsion of Sample IV broke after approximately seven days while the emulsion according to Sample V did not separate over any observed duration of time (several months). The test group observed that the cleaning properties of Samples IV and V were almost, but not quite, as effective as the cleaning properties of Samples I-III, but that the cleaning effectiveness was estimated at approximately 90% of Samples I-III. With respect to Sample IV, the test group reported that their hands did not roughen, but that the sample did not feel as comfortable when on the hands. With respect to Sample V, the test group reported that the emulsion both felt comfortable on the hands and left their hands soft after approximately five days of regular usage. In each case, the emulsions were able to clean all caulking materials and tars, including silicone and polyurethane based caulking compounds as well as oil and grease from the skin. Further tests were conducted on compositions similar to Sample V were in the amount of orange oil was slightly increased while holding the amounts of the remaining ingredients constant until the emulsion broke. It was found that, with these compositions, the emulsion broke when orange oil accounted for approximately 38% by volume of the composition.

From the foregoing, Applicants determined that Sample V offered the best compromise among emulsion stability, cleaning effectiveness, and skin effect. Therefore, utilizing Sample V as a reference, Applicants adjusted the amount of orange oil (ignoring whether the emulsion broke) to determine an effective pH range wherein the composition felt comfortable on the human hands. A first set of samples set forth below as Samples VI-IX were prepared to be less acidic than Sample V, and a second set of test samples, set forth below as Samples X-XIII were tested for compositions having greater acidity than Sample V. Samples VI-IX were prepared by simply buffering Sample V with differing amounts of sodium bicarbonate. The resulting samples were buffered to have pH values according to Table 2 as follows:

TABLE 2

Sample	pH (Approximate)
VI	9.0
VII	8.0
VIII	7.0
IX	6.0

Each of Samples VI-IX were evaluated by the test group. Samples VI and VII were reported to immediately make the hands dry upon first application of the respective composition and removal of the composition with water. With respect to Samples VIII and IX, the test group reported less drying than Samples VI and VII although more dryness of the hands was noted in comparison to test Sample V. These empirical observations lead Applicants to conclude that an acidity of at least pH 6.0 is desirable, that is, that the preferred composition should not be more basic than pH 6.0.

To evaluate test compositions for excess acidity, Applicants merely increased the amount of orange oil in test Sample V while holding the amounts of the remaining ingredients constant to obtain desired acidity levels according to Table 3, below:

TABLE 3

Sample	pH (Approximately)
X	2.5
XI	3.0
XII	3.5
XIII	4.0

Test Sample X had a volume percent of approximately 80% orange oil, Sample IX had orange oil of approximately 70% by volume, Sample XII had orange oil of approximately 60% by volume, and Sample XIII had orange oil of approximately 50% by volume.

It had previously been found that orange oil alone exhibited excellent cleaning properties, but left the hands feeling too dry and too astringent. With respect to Samples X-XIII, in each case no emulsion formed. The test group reported that each of Samples X-XIII had excellent cleaning properties, but the emulsions felt too astringent on the hands even after limited use. Applicants accordingly concluded that it was desirable that the emulsified composition have a pH that is approximately 4.5. Thus, Applicants further concluded that the composition according to the preferred embodiment of the present invention should have a pH of between 4.5 and 6.0, inclusively.

As noted in the above examples, the emulsions according to Sample V broke at approximately 38% orange oil by volume. In order to evaluate cleaning properties as a function of percent volume of orange oil, additional samples were prepared wherein the weight percentages of the ingredients other than orange oil was held constant while the amount of orange oil was varied to provide differing volume percentages of orange oil. Accordingly, Samples XIV-XVII were prepared to have volume percents of orange oil approximately 5%, 10%, 15% and 25%, respectively. In each case, the emulsions were stable. These Samples XIV-XVII were given to the test group to subjectively evaluate cleaning effectiveness. With respect to Sample XIV, the test group reported that cleaning properties were substantially reduced; Sample XIV could not effectively clean tar or caulking compounds. Indeed, Sample XIV was only effective in removing cosmetics from the skin. Sample XV eventually was able to remove silicone caulking compounds but was unable to remove polyurethane caulking or tar. With respect to Sample XVI, the test group reported about 50%-60% of the cleaning effectiveness of Sample V with no marked increase in benefits in skin softening. Sample XVII was reported to have approximately 80% of the cleaning effectiveness of Sample V in removing all of the tested materials, but again there was no report of skin enhancements over Sample V.

From these tests, Applicants concluded that, with respect to cosmetics, a composition according to the present invention could have as little as 5% by volume of orange oil although it was preferable to have a cleaning composition having at least 25% by volume of orange oil.

To determine whether the moisturizers had any effect on the composition or whether pH was the dominant skin effecting property, Applicants prepared yet another sample, Sample XVIII, wherein 100% orange oil was buffered with sodium bicarbonate so that it had a pH of 5.5. This Sample XVIII was tested and it was determined that it was exceptionally drying and astrin-

gent on the human hands. Indeed, Sample XVIII proved almost as drying and astringent as Sample X.

In order to increase the amount of orange oil, Applicants further tested a variation on Sample V wherein both the amount of orange oil and the amount of oatmeal were increased while the amount of moisturizers was decreased. This Sample XIX, was prepared as follows:

SAMPLE XIX

Ingredient	Volume Percent (Approximate)
Orange Oil	40.5
Aloe Vera*	7.75
Jojoba Oil*	7.75
Glycerin*	4.5
Safflower Oil*	.5
Oatmeal	39

*Total Moisturizers accounted for 20.5% by volume.

From Sample XIX, it was concluded that orange oil could be increased, along with a corresponding increase in an oat grain derivative, until approximately 45% by volume of orange oil was included in the composition. Any amount of orange oil in excess of this amount would result in the diminishment of moisturizers so as to negate the softening effect of the hand cleaning composition according to the preferred invention.

Other samples, set forth below as Samples XX-XXIII were prepared utilizing other materials. These samples are as follows:

SAMPLE XX

Ingredient	Volume Percent (Approximate)
Orange Oil	50
Olive Oil	25
Jojoba Oil	25
Baking Soda	Trace

SAMPLE XXI

Ingredient	Volume Percent (Approximate)
Orange Oil	50
Glycerin	50

SAMPLE XXII

Ingredient	Volume Percent (Approximate)
Orange Oil	50
Aloe Vera	50

SAMPLE XXIII

Ingredient	Volume Percent (Approximate)
Orange Oil	12.5
Vitamin E	87.5

Sample XX was found to have a pH of approximately 8.5. While Sample XX was deemed effective in cleaning, there was some reduction of cleaning effectiveness over Sample V and the composition left a dryness when wiped off of the skin. Further, the emulsion broke almost immediately. With respect to Samples XXI and XXII, both samples left a sticky residue on the hands but were approximately equal in cleaning effectiveness to Sample V. Sample XXI had a pH a little greater than 2.0 while Sample XXII had a pH of approximately 3.5.

It was thus observed that aloe vera had some buffering effect on the acidity of the orange oil. Each of Samples XXI and XXII were highly astringent and left the test groups hands dry after washing with water. With respect to Sample XXIII, again this sample proved effective in removing cosmetics, but the sample was not effective in removing heavier, industrial substances such as caulking compounds, adhesives, tars and the like. The orange oil and Vitamin E, however, did mix without separation and a resulting acidity of pH 5.0.

From the information derived from all of the aforementioned samples, Applicants determined that glycerin and safflower oil are both desirable in the preferred compositions. On one hand glycerin appears both to stabilize the emulsion and perform as a moisturizer while, on the other hand, safflower oil appears to act as an emulsion stabilizer, as an emulsifying agent and as a moisturizer.

According to the above, Applicants prefer the compositions set forth in Sample V and Sample XIX for use in cleaning unwanted materials from human skin. In order to test administration of the preferred composition, Applicants applied the compound directly to the skin as a liquid emulsion and removed the emulsion from the hands by washing with water. In addition, Applicants were successful in soaking towellets, formed of standard absorbent material such as paper, cloth and the like, in the liquid emulsion so that a towellet would become impregnated with the cleaning composition. These towellets can be hermetically sealed in standard foil packages, as known in the industry, so that the user can simply remove from the skin any of the described unwanted materials with a pre-moistened towellet. This is particularly useful in situations where water is not readily available. Further, individualized packets of pre-moistened towellets are convenient for portability and on-the-job use.

From the foregoing, the inventors have concluded that a suitable skin cleaning composition can be prepared wherein the skin composition has a first ingredient of between 5% and 60% by volume of orange oil, a second ingredient being a pharmaceutical acceptable moisturizer for human skin and a third ingredient being an emulsifying agent. Preferably, the moisturizer is either one or more of a group of moisturizers selected from the following: glycerin, aloe vera, jojoba oil, safflower oil. However, other pharmaceutically acceptable moisturizers are within the scope of this invention as could be developed without undue experimentation by the ordinarily skilled chemist according to the teachings of the present invention. One example of such a moisturizer is glycerin stearate. These other compositions are thus intended, unless otherwise specifically limited, to be encompassed by the general phrase "moisturizer" both in this specification and in the appended claims. In any event, it is preferred that the resultant composition have a pH between 4.5 to 6.0 and can be so buffered if necessary by the utilization of aloe vera or a buffering agent, such as baking soda.

Accordingly, the present invention has been described with some degree of particularity directed to the preferred embodiment of the present invention. It should be appreciated, though, that the present invention is defined by the following claims construed in light of the prior art so that modifications or changes may be made to the preferred embodiment of the present invention.

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tion without departing from the inventive concepts contained herein.

We claim:

1. A skin cleaning composition adapted for external use on human tissues, comprising a first ingredient being between five percent (5%) and sixty percent (60%) by volume of orange oil, a second ingredient being a pharmaceutically acceptable moisturizer for human skin and a third ingredient being an emulsifying agent in the form of an oat grain derivative product.

2. A skin cleaning composition according to claim 1 wherein said moisturizer is selected from a group consisting of: glycerin, aloe vera, jojoba oil, and safflower oil.

3. A skin cleaning composition according to claim 1 wherein said oat grain derivative product is one of oat gum and oatmeal.

4. A skin cleaning composition according to claim 1 wherein said first, second and third ingredients are selected and mixed in a ratio such that the resulting skin cleaning composition has a pH range of between 4.5 to 6.0, inclusively.

5. A skin cleaning composition according to claim 1 including as a fourth ingredient a buffering compound in a proportion such that the resulting composition is pH balanced within a range of 4.5 to 6.0, inclusively.

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6. A skin cleaning composition for external use on human tissues, comprising orange oil, a pharmaceutically acceptable moisturizer for human skin and an oat grain derivative product as an emulsifying agent, 5 wherein said composition has a pH within a range of 4.5 to 6.0, inclusively.

7. A skin cleaning composition according to claim 5 including a buffering compound.

8. A skin cleaning composition according to claim 5 10 wherein said moisturizer is selected from a group consisting of: glycerin, aloe vera, jojoba oil, safflower oil and glycerol stearate.

9. A cleaning composition for use on human skin comprising forty-five percent (45%) or less by volume of orange oil, forty-five percent (45%) or less by volume of oatmeal and a pharmaceutically acceptable moisturizer.

10. A cleaning composition according to claim 8 wherein said moisturizer is a mixture of jojoba oil, aloe vera and glycerin.

11. A cleaning composition according to claim 1 wherein said mixture includes by volume two parts jojoba oil, two parts aloe vera and one part glycerin.

12. A cleaning composition according to claim 9 wherein said mixture includes safflower oil.

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EXHIBIT B

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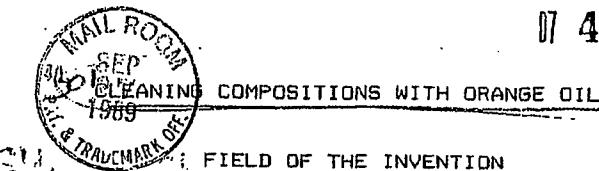
ABSTRACT

A cleaning composition for cleaning the skin contains orange oil, a pharmaceutically acceptable moisturizer and an emulsifying agent. Preferably the orange oil accounts for between 5% and 60% by volume, and it further preferred that the composition contains 40% orange oil by volume. The moisturizer is either glycerin, aloe vera, jojoba oil, safflower oil or a combination thereof. The emulsifying agent preferably is oatmeal. The composition is constituted to have a pH of between 4.5 and 6.0, and the composition may be packaged as moistened towellets in hermetic packets.

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FIELD OF THE INVENTION

The present invention generally relates to cleaning compositions suitable for external application to human skin tissue in order to remove unwanted substances such as tar, caulking compounds, sealants, adhesives and the like. More specifically, however, the present invention is directed to a natural cleaning composition that utilizes only plant based ingredients. As such, the present invention is particularly adapted for cleaning non-water soluble products from the human skin in a safe, effective manner.

BACKGROUND OF THE INVENTION

A wide variety of cleaning compositions are known for external application to skin tissue in order to remove dirt and unwanted materials. Among these cleaning compounds are the various hard and liquid soaps which may be used for cleaning human skin, especially the hands. However, numerous substances with which the hands may be soiled do not respond to ordinary soap compositions. Examples of substances that are difficult to remove include grease, tar, oils, ink, caulking materials, adhesives, sealants, gums, cosmetics and other non-water soluble products.

While some cleaning compositions have been developed for these materials, the typical cleaners are

harsh and can damage the skin, especially after prolonged use. Examples of these compounds include turpentine, acetone, toluene and other petroleum based products as well as ammonia based products. These 5 products, though, often damage the skin and otherwise exhibit a high level of toxicity. Further, if inhaled during use, these petroleum based products may cause respiratory damage. When absorbed through the skin, the petroleum based products can cause damage to the major 10 organs of the body and can have a less serious side effect of drying and chaffing the skin where applied. Thus, it should be appreciated that, although petroleum is a naturally occurring product, it is not 15 toxicologically healthy for the human body. Accordingly, there have been substantial efforts which have been made to find suitable alternative substances for skin 20 cleaning. While some synthetically derived substances have been developed, many of these substances are medically suspect, and in some instances produce side effects making them unsuitable for use on a regular basis.

Orange oil, as a natural product derived from the rind of oranges, has been recognized in the past to have some cleaning capabilities. Prior to the present 25 invention, however, it is not believed that the suitability of orange oil in cleaning human skin was realized. Orange oil by itself is a skin irritant that can cause inflammation of the tissues. When used by

itself, fumes from orange oil may cause headaches, dizziness and other side effects. Accordingly, it has not been readily apparent that orange oil alone or in combination with other substances could prove effective
5 in cleaning compounds otherwise difficult to remove from the tissues of the skin. Rather, efforts in the past have been directed to the combination of orange oil with other cleaning solvents to produce floor cleaners, glass cleaners and the like.

10 From the foregoing, it should be appreciated that the thrust of prior development of skin cleaners, other than soap, have been directed to petroleum based products and ammonia based products and the industry has ignored the potential for orange oil as a constituent of
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SUMMARY OF THE INVENTION

It is an object of the present invention to provide a new and useful compound for cleaning the human skin.

25 Another object of the present invention is to provide a skin cleaning compound suitable for cleaning non-water soluble products such as grease, caulking,

adhesives, sealants, tar, oils, ink and the like.

Yet another object of the present invention is to provide a skin cleaning composition which is non-toxic.

It is a further object of the present invention is 5 to provide a skin cleaning composition that is derived from natural vegetable and plant sources.

Still a further object of the present invention is to provide a skin cleaning composition that not only removes unwanted substances from the human skin but also 10 acts to help clean and revitalize the human skin.

The present invention, then, provides a skin 15 cleaning composition which is adapted for external use on human tissues. Broadly, this composition comprises a first ingredient being between five percent (5%) and sixty percent (60%) by volume of orange oil, a second ingredient being a pharmaceutically acceptable moisturizer for human skin and a third ingredient being an emulsifying agent. Preferably, the moisturizer is selected from a group consisting of: glycerin, aloe 20 vera, jojoba oil, and safflower oil. Further, it is preferred that the emulsifying agent also function as an emollient. Preferably the emulsifying agent is a natural grain derivative, preferably either oat gum or oatmeal. Further, it is preferred that the first, 25 second, and third ingredients are selected and mixed in a ratio such that the resulting skin cleaning composition has a pH range of between 4.5 and 6.0 inclusively. To this end, a fourth ingredient in the

form of a buffering compound may be added to the composition.

5 In the more specific composition according to the preferred embodiment, the cleaning composition comprises forty-five percent (45%) or less by volume of orange oil, forty-five percent (45%) or less by volume of the emulsifying agent and the pharmaceutically acceptable moisturizer. The preferred emulsifying agent in this composition is oatmeal, and the preferred moisturizer is 10 a mixture of jojoba oil, aloe vera and glycerin mixed by volume of approximately two parts jojoba oil, two parts aloe vera and one part glycerin. It is further desired to use a small portion of safflower oil both as a moisturizer and to help form a stable emulsion.

15 These and other objects of the present invention will become more readily appreciated and understood from a consideration of the following detailed description of the preferred embodiment:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

20 The present invention is directed to a cleaning composition utilized on skin tissues and having, as its cleaning ingredient, the commercially available substance known as orange oil derived from the rinds of oranges. In this broad form, the composition includes orange oil, an emulsifying agent and a pharmaceutically acceptable moisturizer. In order to determine the 25 preferred composition of the present invention, a series

of samples having differing properties were evaluated to establish a desired range in pH and to establish the necessary proportion of orange oil to give suitable cleaning. These test samples are set forth below.

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 10 of orange oil and to evaluate orange oil mixed with moisturizing agents. A test group of ten persons, male and female, were selected to subjectively evaluate the results of these samples. Initially, three such samples were prepared, and the compositions are set forth as
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Vitamin E	1

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SAMPLE II

<u>Ingredient</u>	<u>Volume Percent (Approximate)</u>
Orange Oil	34.5
Water	27.5
Glycerin*	17
Aloe Vera*	14
5 Jojoba Oil*	3.5
Vitamin E	3.5

* Total Moisturizers accounted for approximately 34.5% by volume.

SAMPLE III

<u>Ingredient</u>	<u>Volume Percent (Approximate)</u>
Orange Oil	37
10 Water	26
Glycerin*	14.75
Aloe Vera*	14.75
15 Jojoba Oil*	3.5
Vitamin E	4

* Total Moisturizers accounted for approximately 33% by volume.

20 Prior to presenting these samples to the test group, Applicants tested the relative acidity of the samples since it was believed desirable to avoid a composition that was either too acidic or too basic.

The result of this acidity measurement, correlated to the Samples, is set forth in Table 1 below:

TABLE 1

Sample	<u>pH</u> (Approximate)
I	4.5
II	5
III	4.7

In each of the cases of Samples I-III, the respective components were mixed and blended in an attempt to form an emulsion. An initial problem was noted with each of these Samples, however, in that the emulsion separated, that is, "broke" after approximately one to two days. Since it was fairly simple to re-blend the Samples, Samples I-III were submitted to the test group for evaluation. Generally, the results of the composition was excellent with each of Samples I-III readily removing polyurethane and silicone base caulking compounds, tars, grease, oil and adhesives; each of these industrial type substances are regarded as difficult to remove, from the human hands. All ten members of the test group reported comparable cleaning properties and reported that their hands were left soft after a two week period of using the compounds. Indeed, after two weeks of use, certain male members of the test group who had dry hands resulting from the use of other solvents noted substantial improvement in the texture

and softness of their hands. No allergic reactions were reported by any members of the test group.

After determining that test Samples I-III performed adequately in cleaning the hands and in moisturizing the hands, it became necessary to determine whether the oil orange and moisturizer emulsion could be stabilized so that it would not break over a period of time. In order to determine if a natural ingredient could act as an emulsifying agent, the Applicants selected a grain base derivative as an emulsifying agent. To this end, Applicants tested oatmeal gum and oatmeal to act as the primary emulsifier. Accordingly, two more test samples, Samples IV and V were prepared according to the compositions set forth below:

SAMPLE IV

	Ingredient	Volume Percent (Approximate)
15	Orange Oil	42.75
	Aloe Vera*	7
	Jojoba Oil*	3.5
	Safflower Oil*	4
	Oatmeal Gum	42.75
20	* Total Moisturizers accounted for approximately 14.5% by volume.	

SAMPLE V

Ingredient	Volume Percent (Approximate)
Orange Oil	36.5
Aloe Vera	14
Jojoba Oil*	14
Glycerin*	7
Safflower Oil*	0.5
Oatmeal	28

* Total Moisturizers accounted for approximately 35.5% by volume.

It may be noted that, in Samples IV and V, vitamin E and water were both omitted from the composition. However, it should be noted that both the oatmeal gum in Sample IV and the oatmeal in Sample V each contain a portion of water. In Sample IV, the oatmeal gum was prepared by boiling rolled oats in water and straining the resultant mass to remove the hulls. In Sample V, rolled oats were boiled in water and the resulting mass (containing approximately 50% water) was used to prepare the composition. Relatively equal parts of orange oil and oat derivatives were used and a small portion of safflower oil was included. Again, relative acidity was tested and it was found that Sample IV had a pH of approximately 5.0 while Sample V had a pH of 5.5.

Samples IV and V were submitted to the test group to evaluate cleaning effectiveness and moisturizing ability. Further, observation of the two compositions

were made to determine whether or not the emulsions broke. The results of this study determined that the emulsion of Sample IV broke after approximately seven days while the emulsion according to Sample V did not separate over any observed duration of time (several months). The test group observed that the cleaning properties of Samples IV and V were almost, but not quite, as effective as the cleaning properties of Samples I-III, but that the cleaning effectiveness was estimated at approximately 90% of Samples I-III. With respect to Sample IV, the test group reported that their hands did not roughen, but that the sample did not feel as comfortable when on the hands. With respect to Sample V, the test group reported that the emulsion both felt comfortable on the hands and left their hands soft after approximately five days of regular usage. In each case, the emulsions were able to clean all caulking materials and tars, including silicone and polyurethane based caulking compounds as well as oil and grease from the skin. Further tests were conducted on compositions similar to Sample V were in the amount of orange oil was slightly increased while holding the amounts of the remaining ingredients constant until the emulsion broke. It was found that, with these compositions, the emulsion broke when orange oil accounted for approximately 38% by volume of the composition.

From the foregoing, Applicants determined that Sample V offered the best compromise among emulsion

stability, cleaning effectiveness, and skin effect. Therefore, utilizing Sample V as a reference, Applicants adjusted the amount of orange oil (ignoring whether the emulsion broke) to determine an effective pH range wherein the composition felt comfortable on the human hands. A first set of samples set forth below as Samples VI-IX were prepared to be less acidic than Sample V, and a second set of test samples, set forth below as Samples X-XIII were tested for compositions having greater acidity than Sample V. Samples VI-IX were prepared by simply buffering Sample V with differing amounts of sodium bicarbonate. The resulting samples were buffered to have pH values according to Table 2 as follows:

TABLE 2

Sample	pH <u>(Approximate)</u>
VI	9.0
VII	8.0
VIII	7.0
IX	6.0

Each of Samples VI-IX were evaluated by the test group. Samples VI and VII were reported to immediately make the hands dry upon first application of the respective composition and removal of the composition with water. With respect to Samples VIII and IX, the test group reported less drying than Samples VI and VII

although more dryness of the hands was noted in comparison to test Sample V. These empirical observations lead Applicants to conclude that an acidity of at least pH 6.0 is desirable, that is, that the 5 preferred composition should not be more basic than pH 6.0.

To evaluate test compositions for excess acidity, Applicants merely increased the amount of orange oil in test Sample V while holding the amounts of the remaining 10 ingredients constant to obtain desired acidity levels according to Table 3, below:

TABLE 3

Sample	pH <u>(Approximately)</u>
X	2.5
XI	3.0
XII	3.5
15 XIII	4.0

Test Sample X had a volume percent of approximately 80% orange oil, Sample IX had orange oil of approximately 70% by volume, Sample XII had orange oil of approximately 60% by volume, and Sample XIII had orange oil of approximately 50% by volume. 20

It had previously been found that orange oil alone exhibited excellent cleaning properties, but left the hands feeling too dry and too astringent. With respect

to Samples X-XIII, in each case no emulsion formed. The test group reported that each of Samples X-XIII had excellent cleaning properties, but the emulsions felt too astringent on the hands even after limited use.

5 Applicants accordingly concluded that it was desirable that the emulsified composition have a pH that is approximately 4.5. Thus, Applicants further concluded that the composition according to the preferred embodiment of the present invention should have a pH of

10 between 4.5 and 6.0, inclusively.

As noted in the above examples, the emulsions according to Sample V broke at approximately 38% orange oil by volume. In order to evaluate cleaning properties as a function of percent volume of orange oil,

15 additional samples were prepared wherein the weight percentages of the ingredients other than orange oil was held constant while the amount of orange oil was varied to provide differing volume percentages of orange oil.

20 Accordingly, Samples XIV-XVII were prepared to have volume percents of orange oil approximately 5%, 10%, 15% and 25%, respectively. In each case, the emulsions were stable. These Samples XIV-XVII were given to the test group to subjectively evaluate cleaning effectiveness.

25 With respect to Sample XIV, the test group reported that cleaning properties were substantially reduced; Sample XIV could not effectively clean tar or caulking compounds. Indeed, Sample XIV was only effective in removing cosmetics from the skin. Sample XV eventually

was able to remove silicone caulking compounds but was unable to remove polyurethane caulkins or tar. With respect to Sample XVI, the test group reported about 50%-60% of the cleaning effectiveness of Sample V with no marked increase in benefits in skin softening. Sample XVII was reported to have approximately 80% of the cleaning effectiveness of Sample V in removing all of the tested materials, but again there was no report of skin enhancements over Sample V.

From these tests, Applicants concluded that, with respect to cosmetics, a composition according to the present invention could have as little as 5% by volume of orange oil although it was preferable to have a cleaning composition having at least 25% by volume of orange oil.

To determine whether the moisturizers had any effect on the composition or whether pH was the dominant skin effecting property, Applicants prepared yet another sample, Sample XVIII, wherein 100% orange oil was buffered with sodium bicarbonate so that it had a pH of 5.5. This Sample XVIII was tested and it was determined that it was exceptionally drying and astringent on the human hands. Indeed, Sample XVIII proved almost as drying and astringent as Sample X.

In order to increase the amount of orange oil, Applicants further tested a variation on Sample V wherein both the amount of orange oil and the amount of oatmeal were increased while the amount of moisturizers

was decreased. This Sample XIX, was prepared as follows:

SAMPLE XIX

Ingredient	Volume Percent (Approximate)
Orange Oil	40.5
Aloe Vera*	7.75
5 Jojoba Oil*	7.75
Glycerin*	4.5
Safflower Oil*	.5
Oatmeal	39

* Total Moisturizers accounted for 20.5% by volume

10 From Sample XIX, it was concluded that orange oil could be increased, along with a corresponding increase in an oat grain derivative, until approximately 45% by volume of orange oil was included in the composition. Any amount of orange oil in excess of this amount would 15 result in the diminishment of moisturizers so as to negate the softening effect of the hand cleaning composition according to the preferred invention.

Other samples, set forth below as Samples XX-XXIII
20 were prepared utilizing other materials. These samples are as follows:

SAMPLE XX

Ingredient	Volume Percent (Approximate)
Orange Oil	50
Olive Oil	25
Jojoba Oil	25
Baking Soda	Trace

SAMPLE XXI

<u>Ingredient</u>	<u>Volume Percent (Approximate)</u>
Orange Oil	50
Glycerin	50

SAMPLE XXII

<u>Ingredient</u>	<u>Volume Percent (Approximate)</u>
Orange Oil	50
Aloe Vera	50

SAMPLE XXIII

<u>Ingredient</u>	<u>Volume Percent (Approximate)</u>
Orange Oil	12.5
Vitamin E	87.5

Sample XX was found to have a pH of approximately 8.5. While Sample XX was deemed effective in cleaning, there was some reduction of cleaning effectiveness over 10 Sample V and the composition left a dryness when wiped off of the skin. Further, the emulsion broke almost immediately. With respect to Samples XXI and XXII, both samples left a sticky residue on the hands but were approximately equal in cleaning effectiveness to Sample 15 V. Sample XXI had a pH a little greater than 2.0 while Sample XXII had a pH of approximately 3.5. It was thus observed that aloe vera had some buffering effect on the acidity of the orange oil. Each of Samples XXI and XXII

were highly astringent and left the test groups hands dry after washing with water. With respect to Sample XXIII, again this sample proved effective in removing cosmetics, but the sample was not effect in removing heavier, industrial substances such as caulking compounds, adhesives, tars and the like. The orange oil and Vitamin E, however, did mix without separation and a resulting acidity of pH 5.0.

From the information derived form all of the afore-mentioned samples, Applicants determined that glycerin and safflower oil are both desirable in the preferred compositions. On one hand glycerin appears both to stabilize the emulsion and perform as a moisturizer while, on the other hand, safflower oil appears to act as an emulsion stabilizer, as an emulsifying agent and as a moisturizer.

According to the above, Applicants prefer the compositions set forth in Sample V and Sample XIX for use in cleaning unwanted materials from human skin. In order to test administration of the preferred composition, Applicants applied the compound directly to the skin as a liquid emulsion and removed the emulsion from the hands by washing with water. In addition, Applicants were successful in soaking towellets, formed of standard absorbent material such as paper, cloth and the like, in the liquid emulsion so that a towellet would become impregnated with the cleaning composition. These towellets can be hermetically sealed in standard

foil packages, as known in the industry, so that the user can simply remove from the skin any of the described unwanted materials with a pre-moistened towlette. This is particularly useful in situations where water is not readily available. Further, individualized packets of pre-moistened towlettes are convenient for portability and on-the-job use.

From the foregoing, the inventors have concluded that a suitable skin cleaning composition can be prepared wherein the skin composition has a first ingredient of between 5% and 60% by volume of orange oil, a second ingredient being a pharmaceutical acceptable moisturizer for human skin and a third ingredient being an emulsifying agent. Preferably, the moisturizer is either one or more of a group of moisturizers selected from the following: glycerin, aloe vera, jojoba oil, safflower oil. However, other pharmaceutically acceptable ^{moisturizers are within} ~~moisturizers with the scope~~ of this invention as could be developed without undue experimentation by the ordinarily skilled chemist according to the teachings of the present invention. One example of such a moisturizer is glycerin ^{stearate} ~~stearate~~. These other compositions are thus intended, unless otherwise specifically limited, to be encompassed by the general phrase "moisturizer" both in this specification and in the appended claims. In any event, it is preferred that the resultant composition have a pH between 4.5 to 6.0 and can be so buffered if necessary

by the utilization of aloe vera or a buffering agent, such as baking soda.

Accordingly, the present invention has been described with some degree of particularity directed to the preferred embodiment of the present invention. It should be appreciated, though, that the present invention is defined by the following claims construed in light of the prior art so that modifications or changes may be made to the preferred embodiment of the present invention without departing from the inventive concepts contained herein.

On Up Close

Close

We Claim:

Sub A 1. A skin cleaning composition adapted for external use on human tissues, comprising a first ingredient being between five percent (5%) and sixty percent (60%) by volume of orange oil, a second ingredient being a pharmaceutically acceptable moisturizer for human skin and a third ingredient being an emulsifying agent.

2. A skin cleaning composition according to Claim 1 wherein said moisturizer is selected from a group consisting of: glycerin, aloe vera, jojoba oil, and safflower oil.

3. A skin cleaning composition according to Claim 1 wherein said emulsifying agent is an oat grain derivative product.

3-A 3-A. A skin cleaning composition according to Claim 3 wherein said oat grain derivative product is one of oat gum and oatmeal.

A-1 4. A skin cleaning composition according to Claim 1 wherein said first, second and third ingredients are selected and mixed in a ratio such that the resulting skin cleaning composition has a pH range of between 4.5 to 6.0, inclusively.

5-A 5-A. A skin cleaning composition according to Claim 1 including as a fourth ingredient a buffering compound in a proportion such that the resulting composition is

pH balanced within a range of 4.5 to 6.0, inclusively.

7. A skin cleaning composition for external use on human tissues, comprising orange oil, a pharmaceutically acceptable moisturizer for human skin and an emulsifying agent, wherein said composition has a pH within a range of 4.5 to 6.0, inclusively.

5. A skin cleaning composition according to ~~Claim~~ 7 including a buffering compound.

4-5-918 5. A skin cleaning composition according to ~~Claim~~ 7 wherein said moisturizer is selected from a group consisting of: glycerin, aloe vera, jojoba oil, safflower oil and glycerol ^{stearate}.

10. A skin cleaning composition according to ~~Claim~~ 7 wherein said emulsifying agent is an oat grain derivative product.

11. A cleaning composition for use on human skin comprising forty-five percent (45%) or less by volume of orange oil, forty-five percent (45%) or less by volume of an emulsifying agent, and a pharmaceutically acceptable moisturizer.

4-5-918 12. A cleaning composition according to ~~Claim~~ 11 wherein said emulsifying agent is oatmeal.

4-5-918 13. A cleaning composition according to ~~Claim~~ 12 wherein said moisturizer is a mixture of jojoba oil, aloe vera and glycerin.

4-5-918 14. A cleaning composition according to ~~Claim~~ 13 wherein said mixture includes by volume two parts jojoba

oil, two parts aloe vera and one part glycerin.

4-5-41198

17. A cleaning composition according to Claim 16

wherein said mixture includes safflower oil.

16. A cleaning product comprising a towallet formed of an absorbent material, said towallet being impregnated with a cleaning composition and hermetically sealed in a packet member wherein said cleaning composition comprises a first ingredient ingredient being between five percent (5%) and sixty percent (60%) by volume of orange oil, a second ingredient being a pharmaceutically acceptable moisturizer for human skin and a third ingredient being an emulsifying agent.

17. A cleaning product comprising a towallet formed of an absorbent material according to Claim 16 wherein said moisturizer is selected from a group consisting of: glycerin, aloe vera, jojoba oil, and safflower oil.

18. A cleaning product comprising a towallet formed of an absorbent material according to Claim 16 wherein said emulsifying agent is one of oat gum and oatmeal.

EXHIBIT C


**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
07/413,395	09/27/89	GREENSPAN	1286

EXAMINER	
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 TIMOTHY J. MARTIN
44 UNION BLVD., STE. 620
LAKEWOOD, CO 80228

SPEAR, J	
ART UNIT	PAPER NUMBER

152

4

DATE MAILED:

06/18/90

 This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

 This application has been examined Responsive to communication filed on _____ This action is made final.

 A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892.	2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948.
3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.	4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152
5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.	6. <input type="checkbox"/> _____

Part II SUMMARY OF ACTION

 1. Claims 1-18 are pending in the application.

 Of the above, claims 16-18 are withdrawn from consideration.

 2. Claims _____ have been cancelled.

 3. Claims _____ are allowed.

 4. Claims 1-15 are rejected.

 5. Claims _____ are objected to.

 6. Claims _____ are subject to restriction or election requirement.

 7. This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

 8. Formal drawings are required in response to this Office action.

 9. The corrected or substitute drawings have been received on _____ Under 37 C.F.R. 1.84 these drawings are acceptable; not acceptable (see explanation or Notice re Patent Drawing, PTO-948).

 10. The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been approved by the examiner; disapproved by the examiner (see explanation).

 11. The proposed drawing correction, filed _____, has been approved; disapproved (see explanation).

 12. Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has been received not been received been filed in parent application, serial no. _____; filed on _____.

 13. Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

 14. Other _____

EXAMINER'S ACTION

Serial No. 413,395

-2-

Art Unit 152

This action is in response to the election with
traverse of claims 1-15 submitted May 17, 1990 by
Timothy J. Martin. The applicants' arguments have been
considered but they are not deemed to be persuasive.

The following is a quotation of 35 U.S.C. 103 which
forms the basis for all obviousness rejections set forth
in this Office action:

A patent may not be obtained though the invention
is not identically disclosed or described as set
forth in section 102 of this title, if the
differences between the subject matter sought to be
patented and the prior art are such that the
subject matter as a whole would have been obvious
at the time the invention was made to a person
having ordinary skill in the art to which said
subject matter pertains. Patentability shall not
be negatived by the manner in which the invention
was made.

Subject matter developed by another person, which
qualifies as prior art only under subsection (f)
and (g) of section 102 of this title, shall not
preclude patentability under this section where the
subject matter and the claimed invention were, at
the time the invention was made, owned by the same
person or subject to an obligation of assignment to
the same person.

Claim 1 is rejected under 35 U.S.C. 103 as being
unpatentable over Coleman, The Citrus Industry Pub.,
November 1975.

Coleman shows a lotion hand cleaner comprising
approximately 57% d-limonene, moisturizer (lanolin) and
emulsifying agents (Arlacel and Tween). Although
distilled citrus oil (94% d-limonene) is used it would
be obvious to use orange oil, if it were not the source
in this case. Page 24-25.

Claim 2 is rejected under 35 U.S.C. 103 as being

Serial No. 413,395

-3-

Art Unit 152

unpatentable over Coleman as applied to claim 1 above,
and further in view of Dellutri US 4,620,937.

Dellutri shows a skin cleaner comprising d-limonene
and further comprising aloe vera. To use aloe vera in
the Coleman invention would be obvious since both
inventors teach hand cleaners of similar compositions
containing moisturizers. Col. 1, lines 60-65. Col. 3,
lines 23-28.

Claims 3-7; 9-15 are rejected under 35 U.S.C. 103
as being unpatentable over Coleman and Dellutri as
applied to claim 2 above, and further in view of Juliano
et al US 4,014,995.

Juliano for claim 3 shows compositions for use on
the skin containing oat flour. Juliano further shows
oat flour as an emulsifier. Col. 1, lines 34-40. Col.
3, lines 16-25. To use the oat flour in the invention
described above would be obvious in as much as the use of
emulsifiers is a well recognized art. Nothing unobvious
is seen by using oatmeal in claim 4, since oatmeal by
definition is ground oats of a larger particle size than
flour.

For claim 5 both Dellutri and Juliano teach
compositions having a pH of 5.5. Juliano col. 2, lines
3-13, col. 3, lines 5-15. Dellutri col. 3, lines 52-59.

Serial No. 413,395

-5-

Art Unit 152

The motivation to produce cleaning compositions for use on the skin arises from the teachings of Coleman, Dellutri, Juliano and Jones who suggest the desirability to prepare cleaners comprised of orange oil having enhanced cleaning properties. The formulations are non-toxic, stable and non irritating to the skin. Claims 1-5 are rejected.

The Group and/or Art Unit location of your application in the Patent and Trademark Office has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group 150, Art Unit 152.

Any inquiry concerning this communication should be directed to James M. Spear at telephone number 703-557-6525.

JS
Spear:pla

(703) 557-6525

06/11/90

James M. Spear
SPE
AU152

TO SEPARATE, (HOT) TOP AND BOTTOM EDGES, SNAP-APART AND DRY 2D CARBON

FORM PTO-892 (REV. 3-78)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		SERIAL NO.	GROUP ART UNIT	ATTACHMENT TO PAPER NUMBER	4	
NOTICE OF REFERENCES CITED				413395	152			
				APPLICANT(S)	Greenspan et al.			
U.S. PATENT DOCUMENTS								
*	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE		
A	4014995	3-77	Juliano et al.	514	783			
B	4533487	8-85	Jones	252	173			
C	4620937	11-86	Dellutri	252	162			
D								
E								
F								
G								
H								
I								
J								
K								
FOREIGN PATENT DOCUMENTS								
*	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG.	PP. SPEC.
L								
M								
N								
O								
P								
Q								
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)								
R	D-Limonene as a Degreasing Agent Richard L. Coleman, The Citrus Industry Vol. 56, No. 11, November, 1975, pages 23-25							
S								
T								
U								
EXAMINER		DATE						
James M. Spear		6-1-90						
* A copy of this reference is not being furnished with this office action. (See Manual of Patent Examining Procedure, section 707.05 (a).)								

EXHIBIT D

File Copy

D-Limonene As A Degreasing Agent

By
RICHARD L. COLEMAN
 Citrus and Subtropical Products
 Laboratory^a
 Winter Haven, Florida

Abstract

The potential of d-limonene (the principal component in orange oil) as a degreasing agent was explored. D-Limonene was used in three formulations: a gel-type hand cleaner, a lotion-type hand cleaner and a gel-type engine cleaner.

Introduction

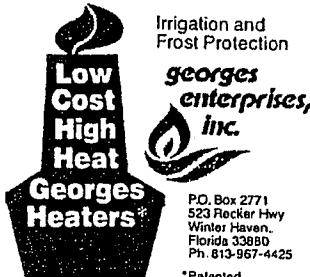
Increasing recovery of distilled oils (mostly d-limonene) by the citrus industry has prompted investigations

^aOne of the laboratories of the Southern Region, U. S. Department of Agriculture, Agricultural Research Service.

Mention of brand names is for identification only and does not imply endorsement by the U. S. Department of Agriculture.

on potential new uses for this by-product.¹ Since d-limonene is an excellent solvent for grease and other organic materials, its use as a degreasing agent for machinery and as a waterless hand cleaner was explored. The methods and results of this investigation are the subject of this report.

Continued on Page 24



Irrigation and Frost Protection

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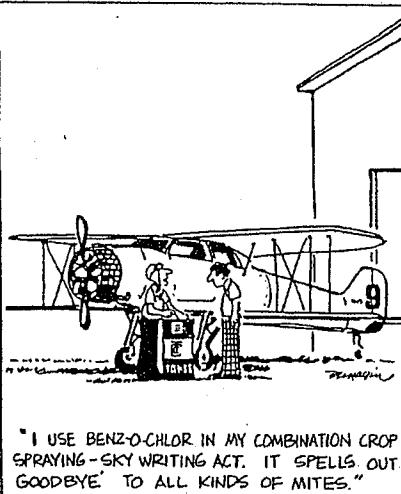
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Montverde Road and S. C. L. Railroad
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 (305) 656-2333

Degreasing

Continued from Page 23

Experimental

Distilled citrus oil (~94% d-limonene) was obtained from a chemical supplier² and used in the following formulations:

Gel-Type hand cleaner

Solution A: 30 g stearic acid
40 g oleic acid
100 g Renex 690³
(or 30)

510 g d-limonene
5.0 g sodium hydroxide
315.0 g water

Instructions: Gradually heat solution A until the stearic acid melts, then cool to room temperature. Add solution B to A, mixing well until a gel forms.

Lotion-Type hand cleaner

Solution A: 300-450 g d-limonene
30 g lanolin
Solution B: 25 g Arlacel 40³
75 g Tween 40³
15 g Arlacel 60³
85 g Tween 60³

Instructions: Mix solutions A and B, then heat to 60°C. Heat 420-570 g of water to 62°C and mix with solution (A + B). Stir moderately until the emulsion is cool.

Gel-Type Engine cleaner

500 g d-limonene
100 g Gafac RM - 510⁴
370 g water

30 g triethanolamine

Instructions: Boil the mixture.

RESULTS AND DISCUSSION

The gel and lotion hand cleaners incorporating d-limonene as the main

solvent were prepared and evaluated as waterless hand cleaners. Also, citrus oil and the gel-type engine cleaner with d-limonene as the major component were evaluated as engine cleaners.

In tests conducted by Lehning,⁵ he and his mechanics found the formulations containing d-limonene equal to commercial waterless hand cleaners in loosening and removing grease from

their hands. In other tests, they found the citrus oil products to be as effective as commercial cleaners in removing grease, sludges, lacquer-like residues and other deposits that accumulate on and in machinery during use. They expressed a definite preference for the citrus oil-containing engines.

Concluded on Page 25

Senninger

Sprinkler Irrigation Equipment

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Applicants Wanted For Harvesting Incentive Plans

Specialty or "zipper skin" fruit varieties represent a major harvesting problem for the Florida citrus industry but a new incentive plan being recommended by the Florida citrus harvesting research and development committee may prove that the job can be made easier.

Terms of the plan call for the Florida Citrus Commission to share 50 per cent of the cost of abscission agents or fruit loosening chemicals used on fruit that will be harvested by hand.

Jim Blair, of the Florida Department of Citrus and coordinator of the research and development effort, said harvestors and growers interested in taking advantage of the incentive should contact him immediately for applications.

"Each cooperator can receive up to \$500 toward the costs of chemicals, applied at the manufacturer's recom-

mended rate," Blair said. "We've budgeted \$50,000 for the incentive program."

The committee also approved two other plans for recommendation to the Commission that are designed to encourage mechanical harvesting operations and provide crucial data. A research plan to gain data important to the industry's overall effort was recommended and a budget of

\$30,000 set. Incentive rates under this plan will be determined on an individual cooperator basis.

Blair explained that the entire research and development effort must be based on "reliable data that will reveal a system's efficiency and commercial feasibility."

A mechanical harvesting incentive

Concluded on Page 26

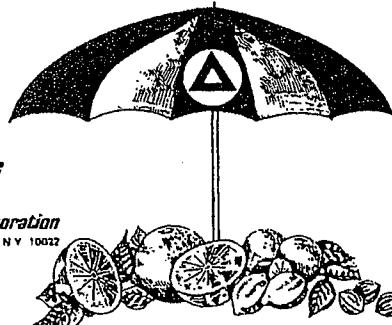
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EXHIBIT E

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152



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application for : Date: September 18, 1990
Greenspan and Low : Group: Art Unit 152
Serial No.: 07/413,395 : Examiner: J. Spear
Filed: September 27, 1989 : Action: AMENDMENT
For: CLEANING COMPOSITIONS WITH : 15C

5

TO: The Commissioner of Patents and Trademark Office
Washington, DC 20231

Sir:

In response to the Office Action of 18 June 1990, please
reconsider the claims of this application in view of the
following remarks:

REMARKS

These remarks are in response to the Office Action of 18 June 1990 in the above referenced patent application. In that application, Claims 1-18 were pending. However, Claims 16-18 were deemed withdrawn from consideration despite Applicants' traverse of the election.

Of the remaining claims, Claim 1 was rejected over Coleman, The Citrus Industry Publication, November 1975 under 35 U.S.C. Section 103. Claim 2 was rejected over Coleman in further view of U.S. Patent No. 4,620,937 to Dellutri under 35 U.S.C. Section 103. Claims 3-7 and 9-15 were rejected over Coleman and Dellutri in further view of U.S. 4,014,995 to Juliano. Claim 8 was rejected over the Coleman reference in view of Dellutri and Juliano and in further view of U.S. Patent No. 4,553,487 to Jones.

At the outset, Applicants note with appreciation the thoroughness of the Examiner's comments in applying the cited references against the claims. However, Applicants have not amended their claims since they believe that the references teach away from the present invention, as currently claimed, so that all of the claims in this application are allowable over these references. Applicants' position is supported by two arguments.

First, as the Examiner has noted, none of the cited references disclose the use of orange oil as a primary constituent. Rather, each of the references rely on the cleaning properties of d-limonene as the primary cleaning constituent. The Examiner then concludes that it would be obvious to substitute orange oil for the d-limonene since the d-limonene is distilled from a citrus oil.

Simply put, these references do not suggest the use of orange oil alone, but rather teach away from the use of orange oil since they rely on the distillate d-limonene. Applicants have found that undistilled orange oil has higher cleaning properties when used in a composition than distilled d-limonene. Applicants have tested the compositions produced according to the ranges of the present application wherein an equal weight percent of d-limonene was substituted for the orange oil. In each case, the orange oil based composition had superior cleaning properties than the identical composition with an equivalent amount of d-limonene substituted for the orange oil. While Applicants believe that other esters and volatiles in the orange oil may contribute to the enhanced cleaning properties, although the

exact reason for the enhanced cleaning properties has not yet been determined. Nonetheless, Applicants have learned of a surprising result from the raw orange oil in these enhanced cleaning properties. This distinction over the use of d-limonene in the prior art is significant and not at all obvious. Indeed, Applicants have found that their composition is effective on substances such as urethane caulking, paint and tar that resist d-limonene cleaning compositions.

The enhanced cleaning property of orange oil contributes to the second distinction between the compositions recited in this application and the prior art. A review of the prior art shows that d-limonene is used in weight percentage ratios that are above the lower ratios claimed in the present application. These ratios run from a low of 51% d-limonene (Coleman) to a high of approximately 70% d-limonene (Coleman). Dellutri uses approximately 58%-60% d-limonene. As noted in the Coleman reference, citrus oil contains approximately 94% d-limonene so that the equivalent amount of citrus oil necessary to provide the amount of d-limonene in the prior art compositions run from approximately 55%-75%.

Claim 1 of the present application claims a range of 5% to 60% orange oil which, as noted above, allows for greater cleaning ability for lesser of the included cleaning agent (orange oil). Since the expense of orange oil is fairly substantial, this surprising result allows a reduction in the proportion of orange oil as opposed to d-limonene, and this leads to substantial economies.

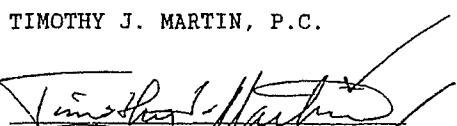
A derivative benefit is seen where the quantity of orange oil, (and thus the amount of d-limonene) since studies have indicated that d-limonene may have carcinogenic effects. For example, the attached study taken from the National Toxicology Study Program (January 1990) indicates a possible adverse effect from excess d-limonene. Where a cleaning composition is intended as one suitable for hand cleaning, as is the present invention, the benefits from reducing the quantity of d-limonene while maintaining the cleaning ability may be appreciated without further explanation.

Accordingly, all of the claims in this application are believed allowable for the inclusion of orange oil. However, several points directed to the dependent claims are in order since it is believed that the dependent claims contain allowable subject matter in their own right. In particular, those claims including the use of oat-grain derivatives and oatmeal. Here, it has been found that the oatmeal may lend cleaning properties in that oatmeal acts as a drawing agent to help remove certain oils or other materials from the surface to be cleaned. It also adds an abrasive quality to the cleaning compound to enhance the scrubbing ability.

Based on the foregoing, it is believed that this application is conditioned for allowance and action to that end is courteously solicited. Should the Examiner request any further information, in the form of affidavits or otherwise, regarding the matters addressed in this Amendment, the Examiner is invited to contact attorney for the Applicants at the telephone number

listed below. Applicants would specifically request the opportunity to submit such affidavits in the event that the Examiner maintains the rejection of the present application.

Respectfully submitted,
TIMOTHY J. MARTIN, P.C.


Timothy J. Martin, #28,640 ✓
Dana Rewoldt, #P-33,762
44 Union Blvd., Suite 620
Lakewood, Colorado 80228
(303) 988-0800

CERTIFICATE OF MAILING UNDER 37 C.F.R. 1.8

I hereby certify that the foregoing AMENDMENT is being deposited with the United States Postal Service as first-class mail, postage prepaid, in an envelope addressed to The Commissioner of Patents and Trademarks, Washington, DC 20231, on this 10/22 day of September, 1990.

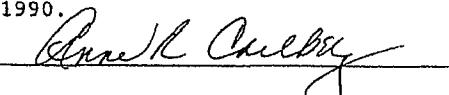


EXHIBIT F

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DOUGLAS H. GREENSPAN
and PHILLIP A. LOW

MAILED

Appeal No. 95-2450
Application 07/786,804¹

APR 15 1997
PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

ON BRIEF

Before CAROFF, WILLIAM F. SMITH, and GRON, Administrative Patent Judges.

WILLIAM F. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 of the final rejection of claims 1 through 3, 5 through 21, and 25, all the claims remaining in the application. Claims 1, 17, and 25 are illustrative of the subject matter on appeal and read as follows:

¹ Application for patent filed November 4, 1991. According to appellants, the application is a continuation-in-part of Application 07/413,395, filed September 27, 1989, now U.S. Patent No. 5,063,062.

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Application 07/786,804

1. A method of externally treating human skin including the steps of:

applying to said skin a composition having a first ingredient being between five percent (5%) and sixty percent (60%) by volume of orange oil, a second ingredient being a pharmaceutically acceptable moisturizer for human skin including a plant material such as plant oils and plant extract and a third ingredient being an emulsifying agent in the form of a grain based derivative.

17. A method for treating acne on human skin comprising the step of applying a composition including forty-five percent (45%) or less by volume of orange oil, forty-five percent (45%) or less by volume of an emulsifying agent in the form of a grain based derivative, and a pharmaceutically acceptable moisturizer including plant material such as plant oils and plant extract to said acne on the human skin.

25. A cleaning product comprising a towelflet [sic] formed of an absorbent material, said towelflet [sic] being impregnated with a cleaning composition and hermetically sealed in a packet member wherein said cleaning composition comprises a first ingredient being between five percent (5%) and sixty percent (60%) by volume of orange oil, a second ingredient being a pharmaceutically acceptable moisturizer including a plant material such as plant oils and plant extract, for human skin and a third ingredient being a grain based emulsifying agent in the form of an oat grain based derivative product.

The references relied upon by this merits panel are:

Dellutri 4,620,937 Nov. 4, 1986

R.L. Coleman, "D-Limonene As A Degreasing Agent," Citrus Industry, pp. 23-25 (November 1975).

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Physicians' Desk Reference (PDR 1969)², pp. 665-66 (24th ed., Medical Economics, Inc., New Jersey, 1969).

Physicians' Desk Reference (PDR 1989)³, p. 655 (43rd ed., Medical Economics Inc., New Jersey, 1989).

The examiner has not relied upon prior art in rejecting the claims on appeal.

Rather, claims 1 through 3, 5 through 21, and 25 stand rejected under 35 U.S.C. § 112, first paragraph, as being nonenabled by the supporting specification and under 35 U.S.C. § 112, second paragraph, as being indefinite. We reverse the rejection under the first paragraph of the statute and affirm the rejection under the second paragraph of the statute. We also make new grounds of rejection under 37 CFR § 1.196(b), as well as raise several issues which require the examiner's attention upon return of the application file.

Enablement Rejection

The examiner's concern centers around the third ingredient set forth in claim 1, i.e., "an emulsifying agent in the form of a grain based derivative." The only reason given in support of this rejection by the examiner appears at page 2 of the Answer

² We rely upon the entries appearing on these pages for Acnaveen bar, Acnaveen Cream, Aveeno® Bar, Aveeno® Colloidal Oatmeal, Aveeno® Lotion, Aveeno® Oilated, Avenol™ Bath Additive and Emulave™ Bar.

³ We rely upon the entry for Massengill® Medicated Soft Cloth Towelette.

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where the examiner states that "the disclosure is enabling only for claims limited to the emulsifiers being derived from grains such as corn, rice, wheat, barley and oats."

By now it is well settled that the examiner bears the initial burden of providing reasons why a supporting disclosure does not enable a claim. In re Marzocchi, 439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971). Here, the examiner has only stated that undue experimentation would be required to practice the invention as claimed. The examiner has not relied upon any facts in support of this conclusion. Consequently, the examiner's holding of nonenablement is unsupported on this record. We reverse the rejection.

Definiteness Rejection

As set forth at page 3 of the Answer, the examiner is of the opinion that the terms "plant material" and "plant extract" are vague and indefinite.

As set forth in In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971) "the definiteness of language employed must be analyzed—not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art." [Footnote omitted.] Here, the examiner has not attempted to read the claim in light of the supporting specification. Thus, the examiner has not properly considered the issue of claim definiteness.

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However, appellants have compounded the examiner's error in responding to this rejection. They have done so by attempting to incorporate a specification limitation in the claims. Specifically, appellants argue at page 7 of the Appeal Brief that reading the claims in light of the specification "makes clear the recited 'plant extract' is meant to be relatively pure aloe vera plant extract." Reading claim 1 as being limited in this manner is legal error. In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1321-22 (Fed. Cir. 1989).

Consequently, we affirm the rejection under 35 U.S.C. § 112, second paragraph, because the record provides adequate reasons to question the metes and bounds of the phrase "plant extract."

New Grounds of Rejection Under 37 CFR § 1.196(b)

Under the provisions of 37 CFR § 1.196(b) we make the following new grounds of rejection.

1. Introduction.

We express our concern that the claims on appeal have not been adequately examined in the first instance by the examiner. As set forth above, the examiner did not appear to apply the relevant legal standards used in determining whether claims are in compliance with the requirements of 35 U.S.C. § 112, first and second

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paragraphs. For reasons set forth below, the claims on appeal do not comply with these sections of the statute.

Furthermore, it does not appear that the prior art has been adequately searched. The examiner has not applied prior art against any of the claims on appeal. The administrative record of this file indicates that the examiner searched a single class and subclass. It does not appear that the examiner sought to determine whether any of the specific components used in the compositions in the claimed methods and products were used either individually or in combination with other ingredients for the purpose of treating human skin or any of the specific conditions set forth in the claims. As is apparent from a reading of the specification, a key aspect of the present invention is the use of oatmeal to treat human skin. The examiner's search of the single subclass apparently did not result in any relevant prior art regarding the use of oatmeal in treating human skin. This merits panel has not undertaken a complete independent search of the subject matter on appeal. This is the examiner's responsibility in the first instance. However, a brief consultation of standard reference texts such as the Physician's Desk Reference readily uncovered significant prior art regarding the use of oatmeal in skin care products. If appellants elect the option under 37 CFR § 1.196(b) to re-open prosecution in front of the examiner, the examiner should expand the prior art search beyond the single subclass that has been searched and ensure that all

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relevant prior art regarding the use of the individual components of the present invention has been uncovered and considered.

2. Definiteness.

Claims 1 through 3, 5 through 21, and 25 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

a. The claims are indefinite to the extent the independent claims, claims 1, 17, and 25, require the use of a "plant material such as plant oils and plant extract." The use of the phrase "such as" raises the question as to whether plant oils and plant extract are exemplary or limiting. In other words, it is not clear whether the claims are open to plant material other than plant oils and plant extract. See Ex parte Remark, 15 USPQ2d 1498, 1500 (Bd. Pat. App. & Int. 1990).

b. The scope of claims 15 and 16 is unclear. Claim 15 limits the method of claim 1 so that the "composition is operative . . . to reduce the peeling of the human skin resulting from . . . sunburn." Claim 16 limits the method of claim 1 so that "said composition is operative to repel insects from human tissue." It is not clear what if anything needs to be done to the composition of claim 1 in order to make it "operative" for these purposes. For example, it is not clear from this record whether appellants intend claim 16 to be limited to a composition having 20% citrus oil as disclosed at pages 23-24 of the specification. Clarification is required.

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c. Claims 17 through 21 are indefinite in that claim 17 is directed to a method for treating acne on human skin while dependent claims 18 through 21 are directed to compositions. Thus, it is unclear which preamble is correct, i.e., do appellants intend claims 17 through 21 to be directed to a method or a composition? Also, it is not clear whether claims 18 through 21 further limit claim 17 as required by the fourth paragraph of § 112.

2. Enablement.

Claims 1, 2, 5 through 17, and 19 through 21 are rejected under 35 U.S.C. § 112, first paragraph, as being nonenabled by the supporting specification.

The emulsifier of these claims is to be in the form of a grain based derivative. The supporting specification of this application indicates in the paragraph which bridges pages 9-10 that wheat and oats are the grains most preferred to serve as a source of emulsifying agents. However, this portion of the supporting specification then states that wheat did not provide the desired texture to the composition. Thus, it appears that appellants are admitting in this portion of the supporting specification that wheat based derivatives are not useful as the emulsifying agent in the present invention. Therefore, the supporting specification does not appear to provide sufficient information to determine without undue experimentation which grain based derivatives are suitable for use.

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3. Prior art.

a. Claims 1 through 3 and 5 through 18 are rejected under 35 U.S.C. § 103.

As evidence of obviousness we rely upon Coleman, Dellutri, and PDR 1969.

These claims read on treating human skin either broadly or for the stated purposes with a composition which comprises orange oil, aloe vera extract, and oatmeal. The orange oil ingredient is present in an amount between 5% and 60% by volume.

Coleman describes the use of d-limonene obtained from citrus oils, such as orange oil, as a hand cleaner. As seen from the formulation set forth on page 24 of Coleman, emollients or moisturizers such as stearic acid, oleic acid, and lanolin are conventionally used in combination with d-limonene. As seen in the paragraph which bridges pages 24-25 of the reference, citrus oil-containing compositions were preferred because they cause less skin irritation and had a pleasant odor.

Dellutri also describes cleaning agents that can be used as a hand cleaner which include d-limonene obtained from orange oil. Significantly, the distilled citric oil used as a source of d-limonene in this reference should be between 20% and 90% of the liquid volume of the cleaning agent mixture. See column 2, lines 19-26 of the reference. Also note that aloe vera extract may be used as an optional ingredient. See column 3, lines 23-38 of the reference. As set forth in this portion of the reference, the aloe vera extract serves to protect the user's hands and reduces the risk of irritation.

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PDR 1969 is relied upon as evidence that colloidal oatmeal has long been used to treat skin in general and for treating skin conditions such as acne, sunburn, rashes, dermatitis, and poison ivy. The Acnaveen® Bar and Cream are formulated using colloidal oatmeal and other ingredients to clean oily skin and scalp in treating acne. Anti-pruritic and anti-irritative activities are attributed to the soothing effects of the colloidal oatmeal. Those formulations also have had their pH adjusted to approximate that of normal skin.

The entry for Aveeno® Bar indicates that colloidal oatmeal is useful in treating dermatitis. The entry for Aveeno® Colloidal Oatmeal indicates that the colloidal oatmeal by itself is useful in treating poison ivy, diaper rash, and atopic dermatitis. Note that the entry for Aveeno® Lotion indicates that that product containing colloidal oatmeal is useful in providing systematic relief of sunburn, poison, and other skin conditions. The remaining entries relied upon provide further evidence that colloidal oatmeal is a well-known additive in skin care compositions to provide relief from itching and irritation.

On the basis of the combined disclosures of these three references, we hold that one of ordinary skill in the art would have found it obvious to treat human skin with a composition which comprises orange oil, aloe vera extract, and colloidal oatmeal. As seen from Dellutri, the hypothetical person of ordinary skill in the art would have understood that such compositions should have a high volume percentage of orange

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oil. That hypothetical person would have fully understood and expected at the time of the present invention that treating human skin with a composition which comprises orange oil, aloe vera extract, and colloidal oatmeal would be soothing and help alleviate itching and irritation. Specifically, the hypothetical person would have found it obvious to use such a composition to treat damaged skin as claimed including skin which has been burned, acne, rashes, and poison ivy.

In regard to the requirements of claims 5 and 6 that the resulting composition have a pH range of between 4.5 to 6.0, optionally through use of a buffering compound, we point to the disclosure in PDR 1969 that skin care compositions should be adjusted to have a pH approximate to that of normal skin. Thus, the pH of the resulting composition is a result effective variable and would routinely be optimized by one of ordinary skill in the art. In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

As to the requirement of claim 15 that the composition is "operative" to reduce peeling skin resulting from sunburn, we point out that the claim does not require any affirmative step or ingredient beyond applying the composition of claim 1.

In regard to claim 16, it appears that the only requirement for the composition to be "operative" to repel insects is that the composition contain 20% citrus oil. This is an amount specifically suggested by Dellutri.

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b. Claim 25 is rejected under 35 U.S.C. § 103. As evidence of obviousness, we rely upon Coleman, Dellutri, and PDR 1969 as applied above, and PDR 1989.

We held above that Coleman, Dellutri, and PDR 1969 would have suggested to one of ordinary skill in the art a skin treating composition which comprises orange oil, aloe vera extract, and oatmeal. Claim 25 is directed to a cleaning product which comprises a towelette formed of an absorbent material being impregnated with such a cleaning composition. We rely upon PDR 1989 only for its disclosure of the well known fact that skin care compositions were conventionally impregnated on a soft cloth towelette and hermetically sealed in packet member at the time of the present invention.

Thus, on the basis of these four references together, we hold that the subject matter of claim 25 would have been obvious to one of ordinary skill in the art.

OTHER ISSUES

We have not included claims 19 through 21 in the new grounds of rejection since these claims require, *inter alia*, the use of jojoba oil, glycerin and safflower oil. In researching this case, as suggested above, the examiner should be especially watchful for relevant prior art that would establish that these three compounds have been used in skin care products. We emphasize that by not including these claims in the new grounds of rejection we are not indicating that the subject matter of these claims is

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patentable. That determination will have to be made by the examiner after the relevant prior art has been reviewed.

TIMES FOR RESPONSES

Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date hereof. 37 CFR § 1.197.

With respect to the new rejections under 37 CFR § 1.196(b), should appellants elect the alternate option under that rule to prosecute further before the Primary Examiner by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire two months from the date of this decision. In the event appellants elect this alternate option, in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmation is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellants elect prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to us for final action on the affirmed rejection, including any timely request for reconsideration thereof.

Appeal No. 95-2450
Application 07/786,804

No time period for taking any subsequent action in connection with this appeal
may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART - 37 CFR § 1.196(b)

Marc L. Caroff
Marc L. Caroff
Administrative Patent Judge
)

William F. Smith
William F. Smith
Administrative Patent Judge
)

Teddy S. Gron
Teddy S. Gron
Administrative Patent Judge
)

) BOARD OF PATENT
) APPEALS AND
) INTERFERENCES

Appeal No. 95-2450
Application 07/786,804

Timothy J. Martin, P.C.
9250 W. 5th Avenue, Suite 200
Lakewood, CO 80226

EXHIBIT G

REDACTED

EXHIBIT H

REDACTED